

# KIC 004819916

## Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_{\star}$ ( $R_{\odot}$ )	$T_{\star}$ (K)	$R_p$ ( $R_{\oplus}$ )	$S_p$ ( $S_{\oplus}$ )
004819916-01	OBS	No	1.023793	131.994517	0.4	8.906	8.1	0.3	2.38	6202	0.16	15515.23

## Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
004819916-01	OBS	FP	0.00	1	0	0	0	SWEET_NTL—LPP_DV—LPP_ALT—CENT_FEW_MEAS

**Notes:** OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

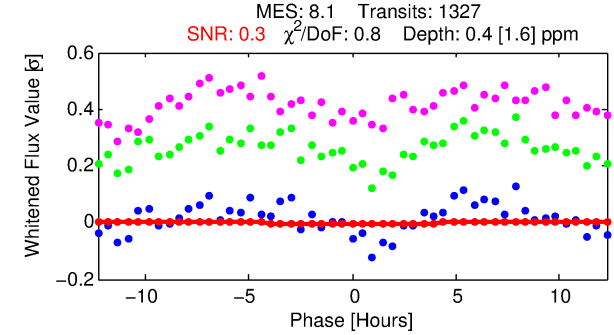
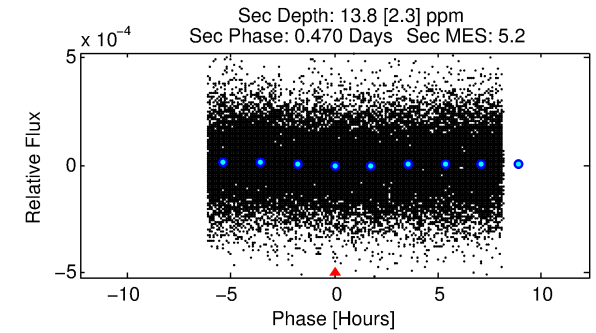
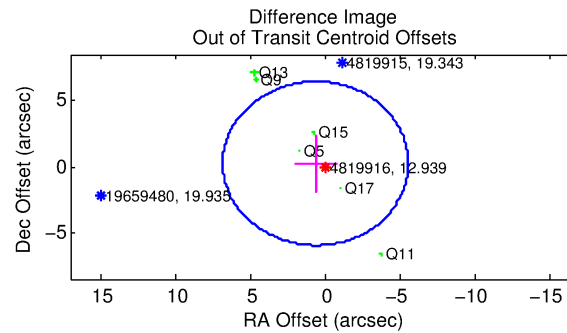
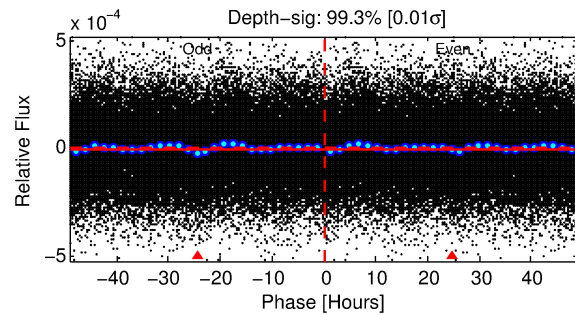
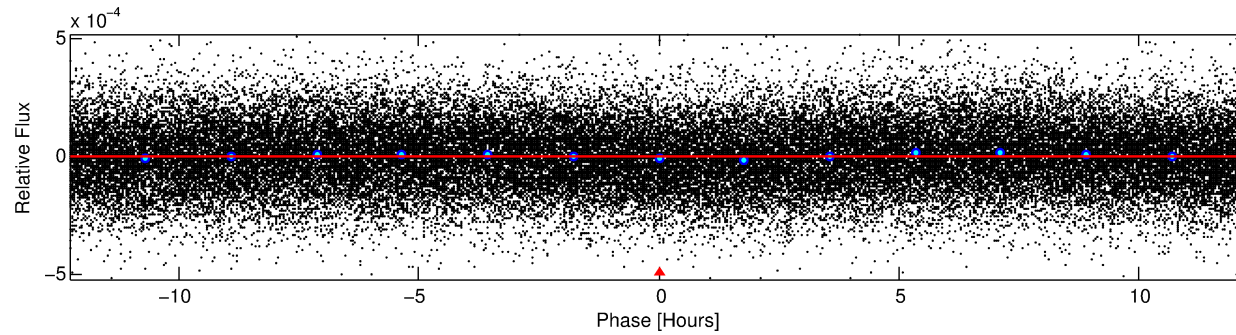
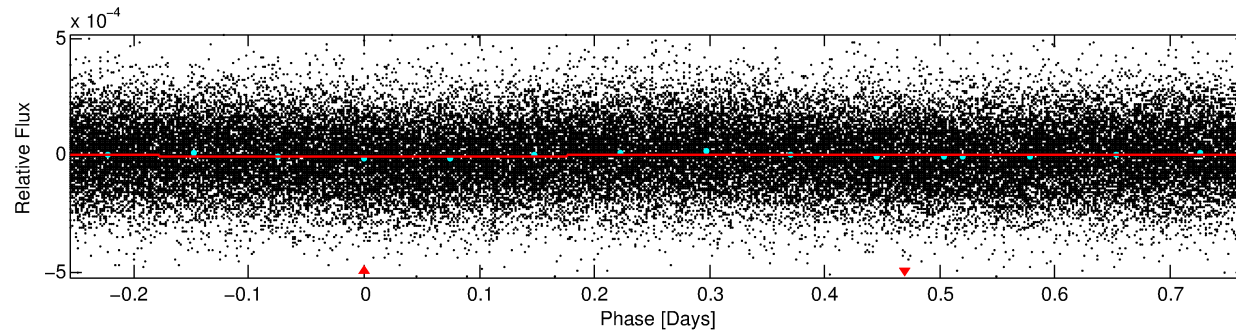
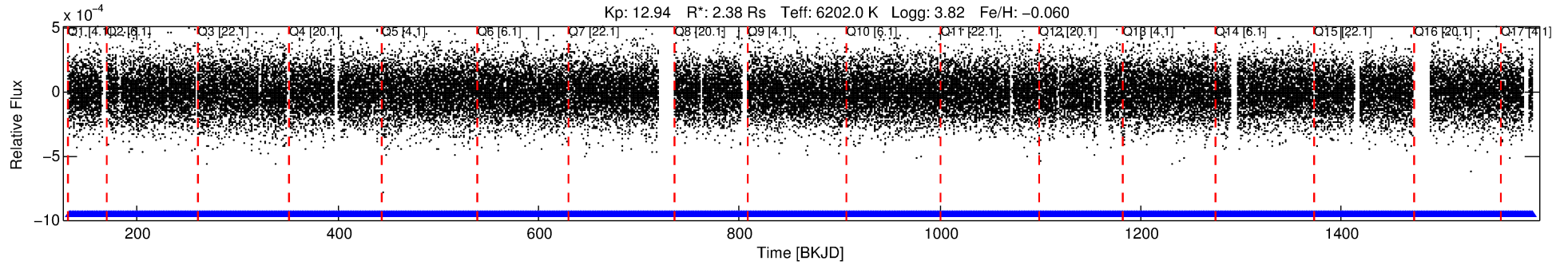
See [http://exoplanetarchive.ipac.caltech.edu/docs/API\\_kepcandidate\\_columns.html#proj\\_disp\\_col](http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col) for comment definitions.

## Ephemeris Match Information For 004819916-01

No Significant Match Found

# DV One-Page Summary

KIC: 4819916 Candidate: 1 of 1 Period: 1.024 d



## DV Fit Results:

Period = 1.02379 [0.00060] d  
Epoch = 131.9945 [0.1976] BKJD  
Rp/R\* = 0.0006 [0.0126]  
a/R\* = 1.09 [18.64]  
b = 0.30 [318.19]  
Seff = 15515.22 [7878.96]  
Teq = 2846 [361] K  
Rp = 0.16 [3.27] Re  
a = 0.0220 [0.0070] AU  
Ag = 144.98 [5971.87] [0.02 $\sigma$ ]  
Teffp = 15268 [157217] K [0.08 $\sigma$ ]

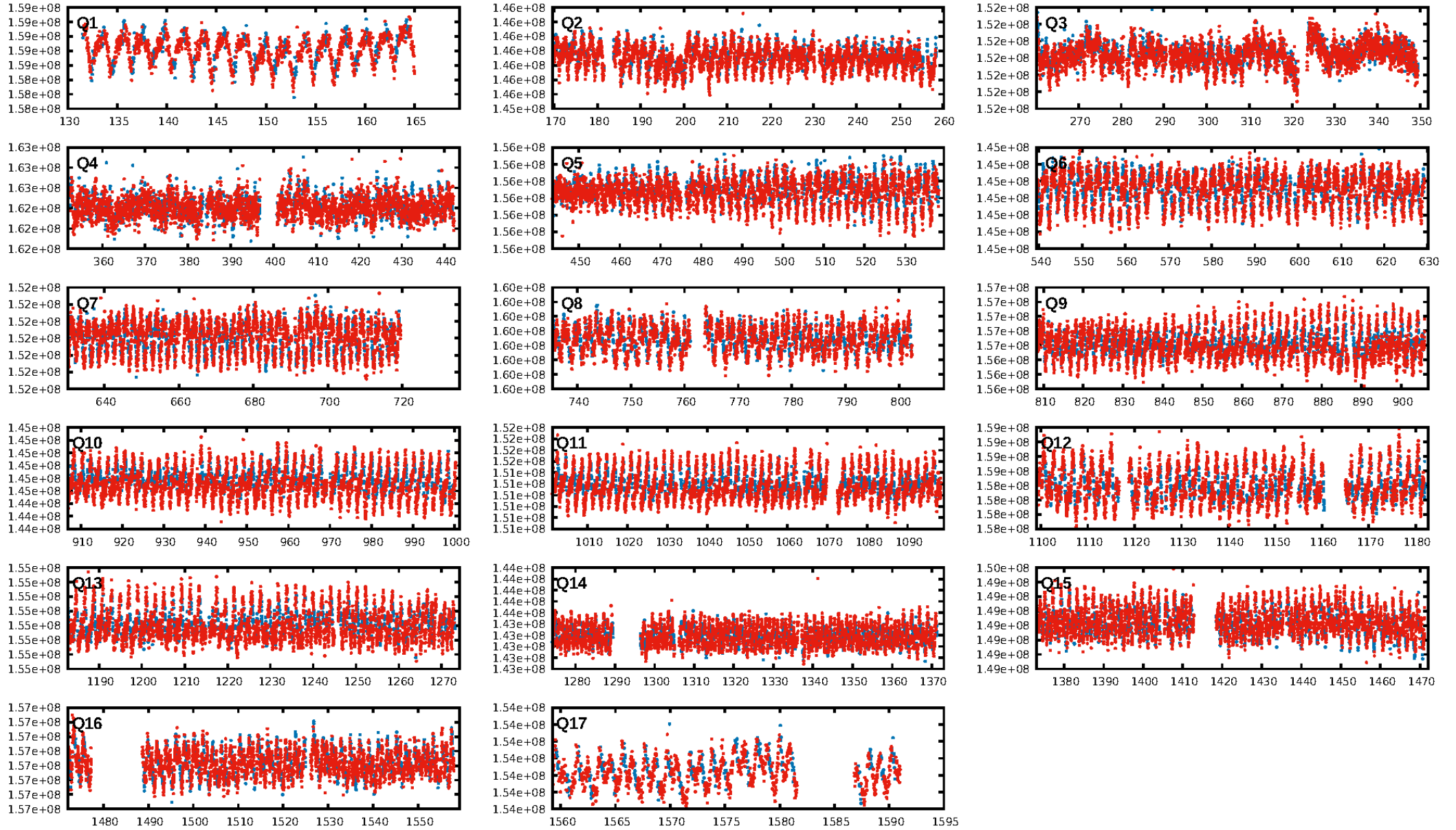
## DV Diagnostic Results:

ShortPeriod-sig: N/A  
LongPeriod-sig: N/A  
ModelChiSquare2-sig: N/A  
ModelChiSquareGof-sig: N/A  
Bootstrap-pfa: N/A  
RollingBand-fgt: 1.00 [1266/1266]  
GhostDiagnostic-chr: N/A  
Centroid-sig: N/A  
Centroid-so: N/A  
OotOffset-rm: 0.653 arcsec [0.32 $\sigma$ ]  
KicOffset-rm: 0.603 arcsec [0.36 $\sigma$ ]  
OotOffset-st: 0/2/0/4 [6]  
KicOffset-st: 0/2/0/4 [6]  
DiffImageQuality-fgm: 0.33 [2/6]  
DiffImageOverlap-fno: 1.00 [17/17]

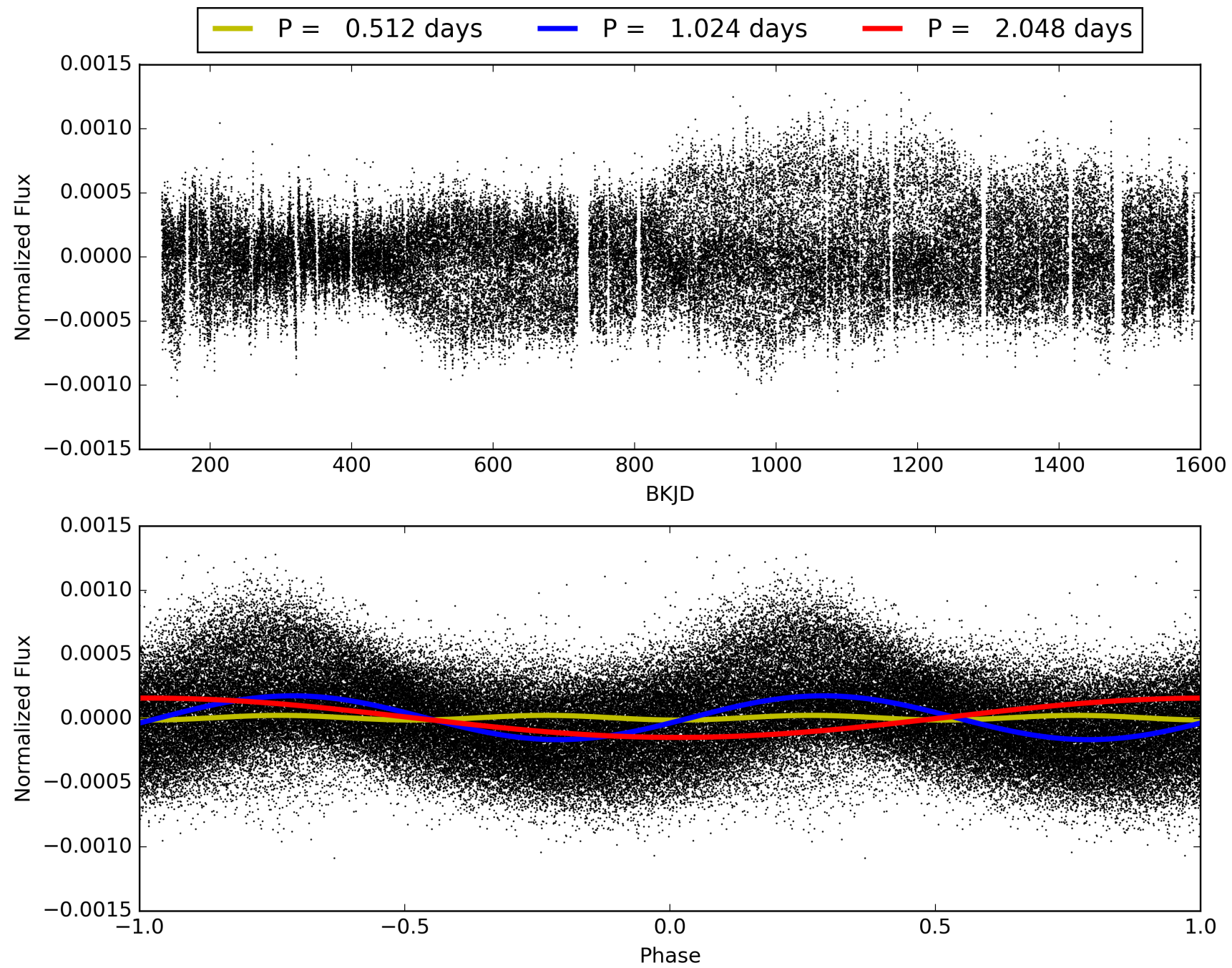
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 23:32:45 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

# TCE 004819916-01, PDC Light Curves



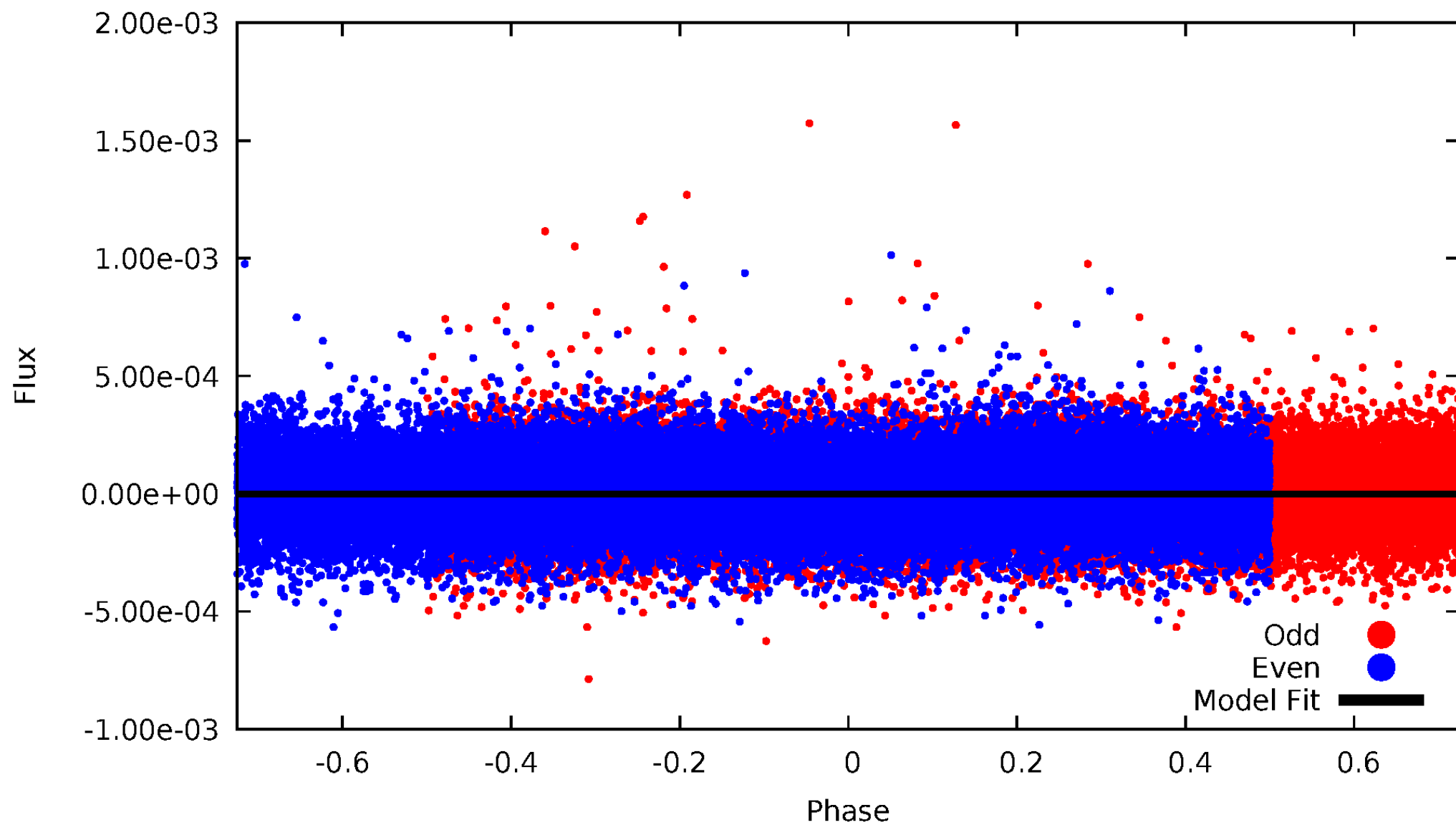
TCE 004819916-01





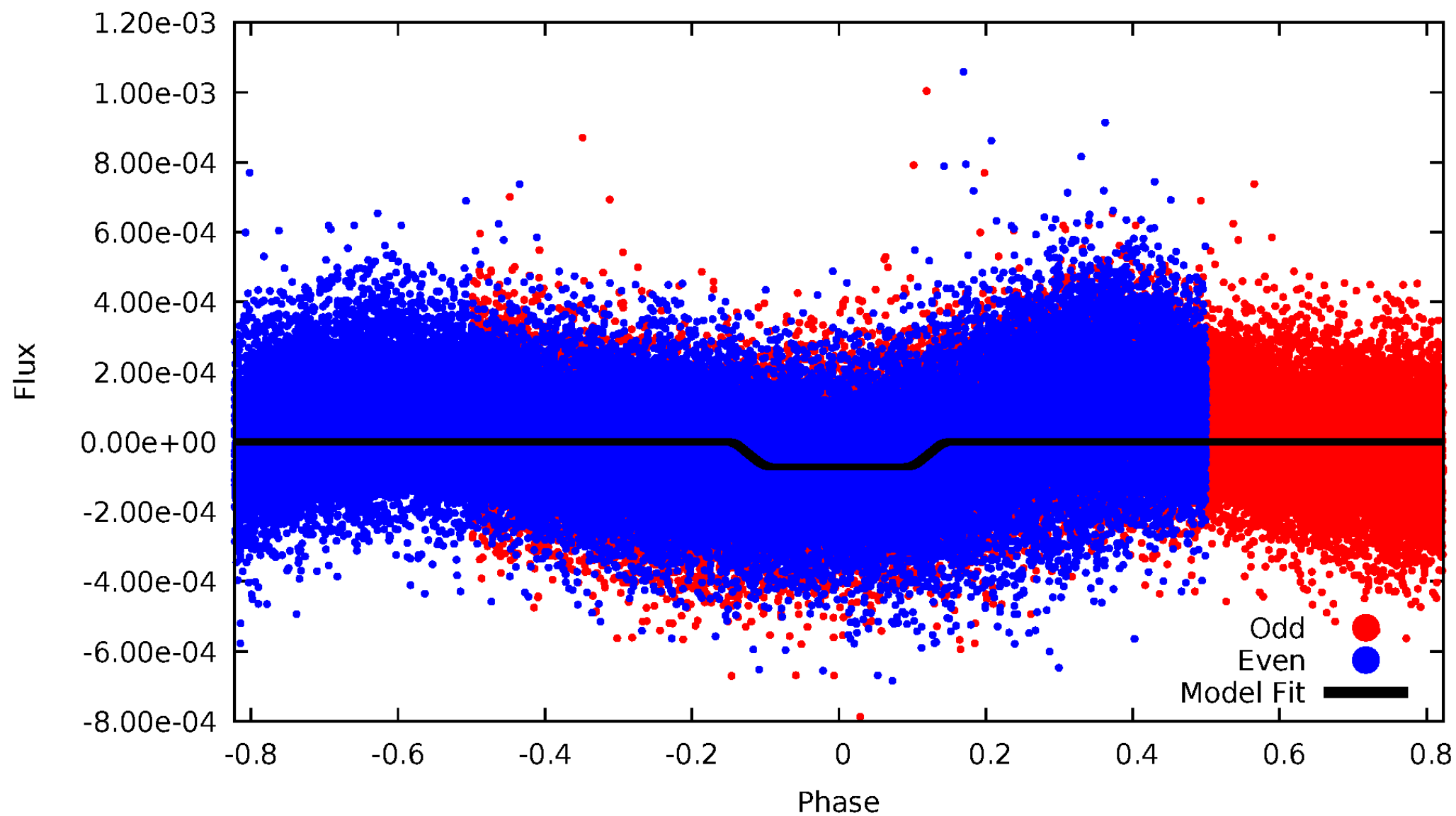
# DV Odd/Even

TCE 004819916-01



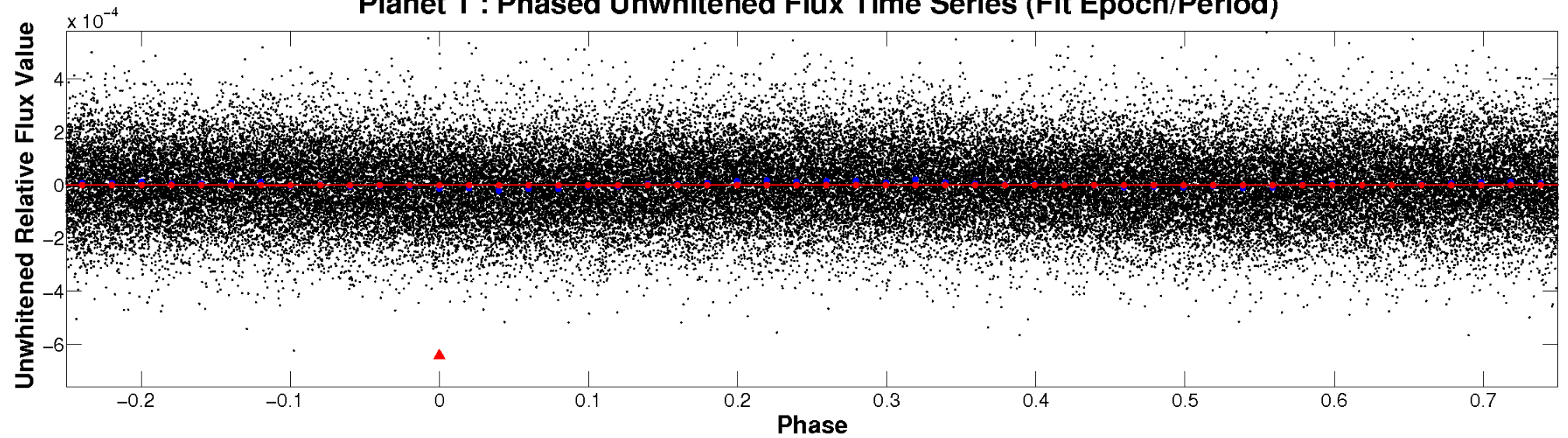
# ALT Odd/Even

TCE 004819916-01

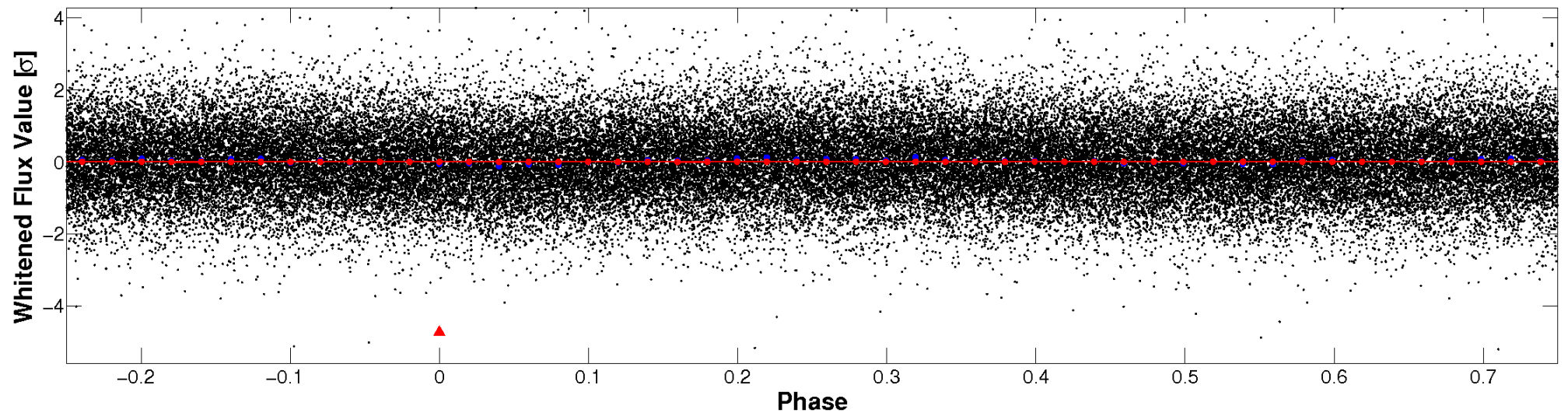


# Non-Whitened Vs. Whitened Light Curve

**Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)**

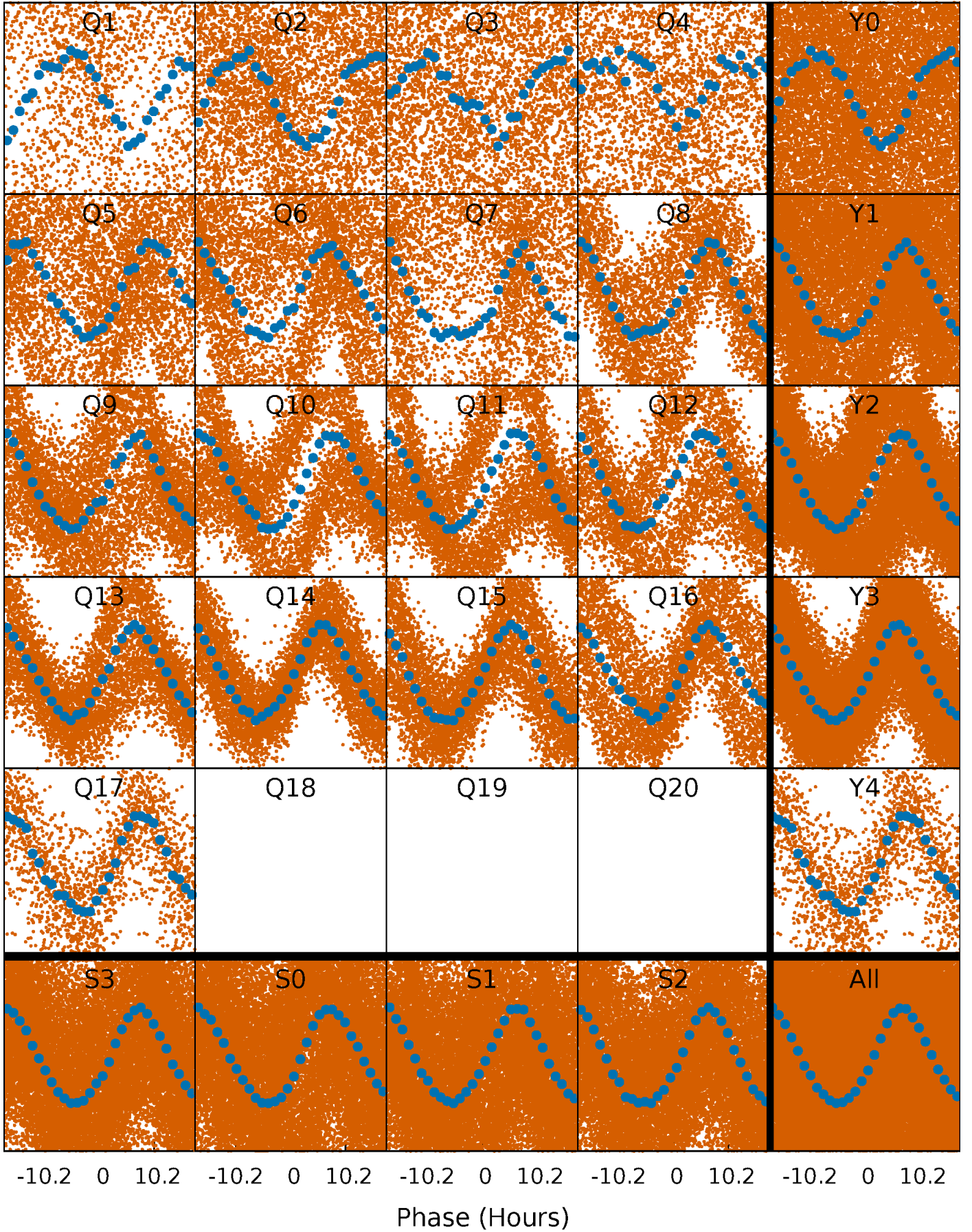


**Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)**



# PDC Quarter-Phased Transit Curves

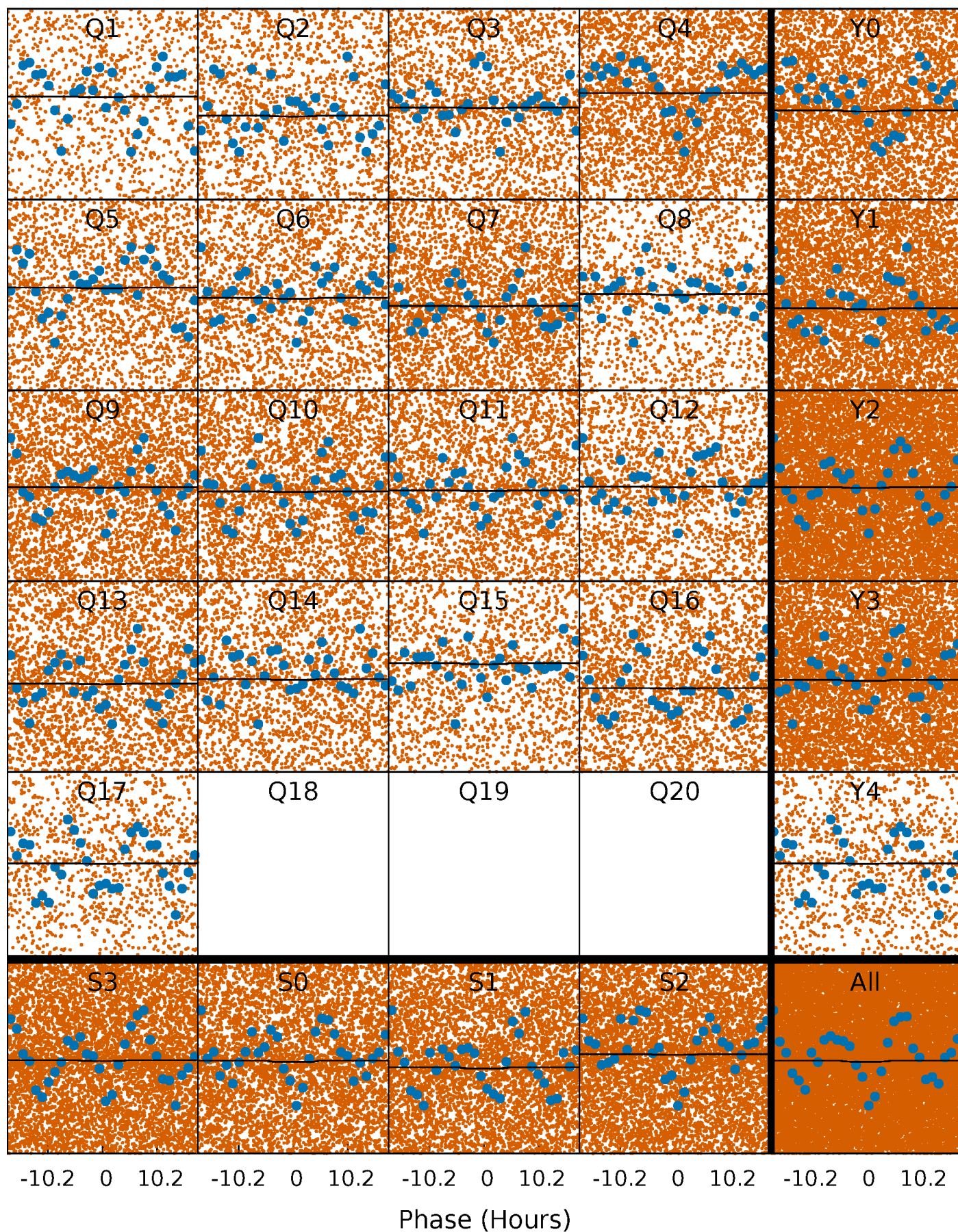
TCE 004819916-01 P= 1.023793 Days  $T_0=131.994517$  (BKJD)





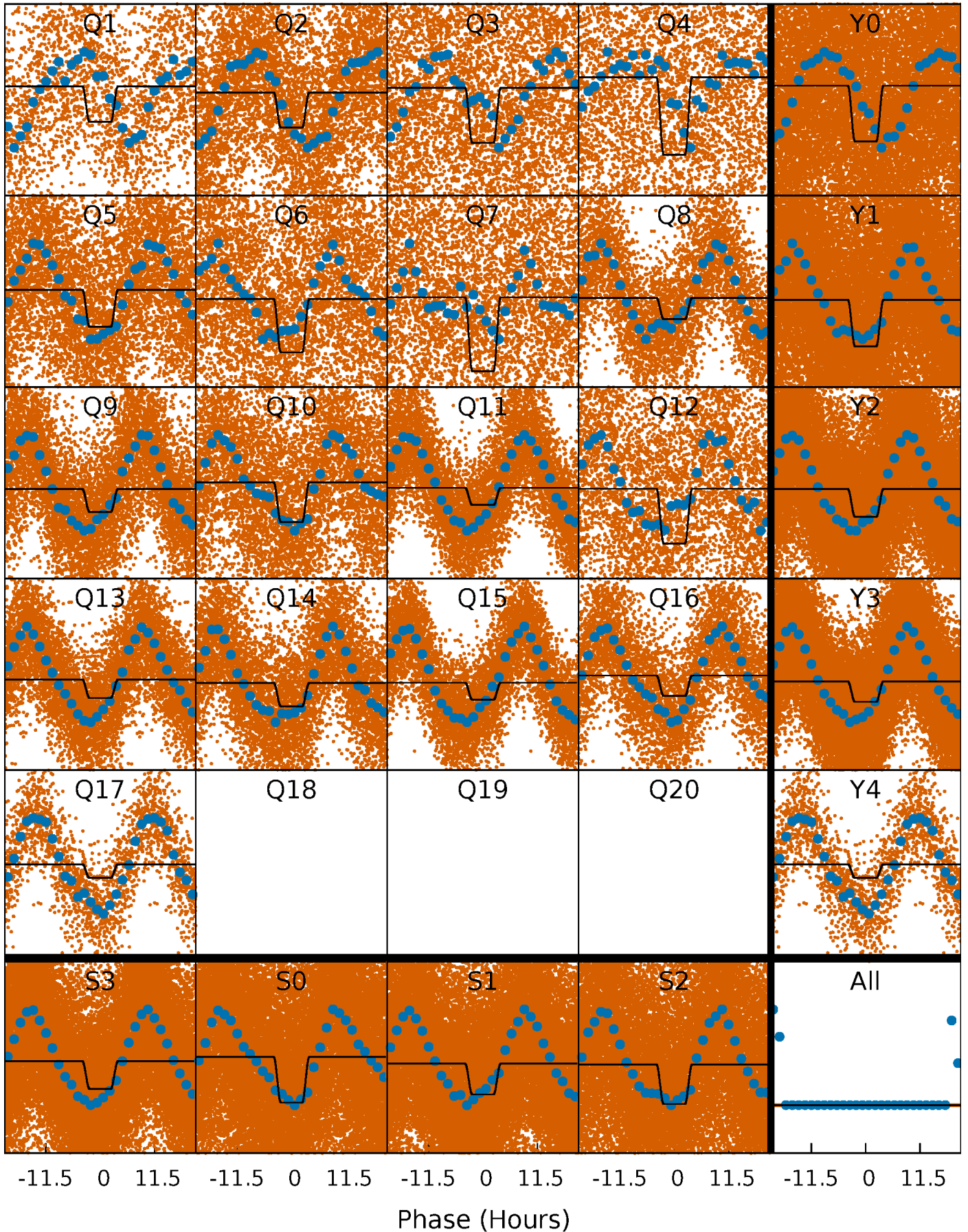
# DV Quarter-Phased Transit Curves

TCE 004819916-01 P= 1.023793 Days  $T_0=131.994517$  (BKJD)



# Alt. Detrend Quarter-Phased Transit Curves

TCE 004819916-01 P= 1.023723 Days  $T_0=131.960033$  (BKJD)

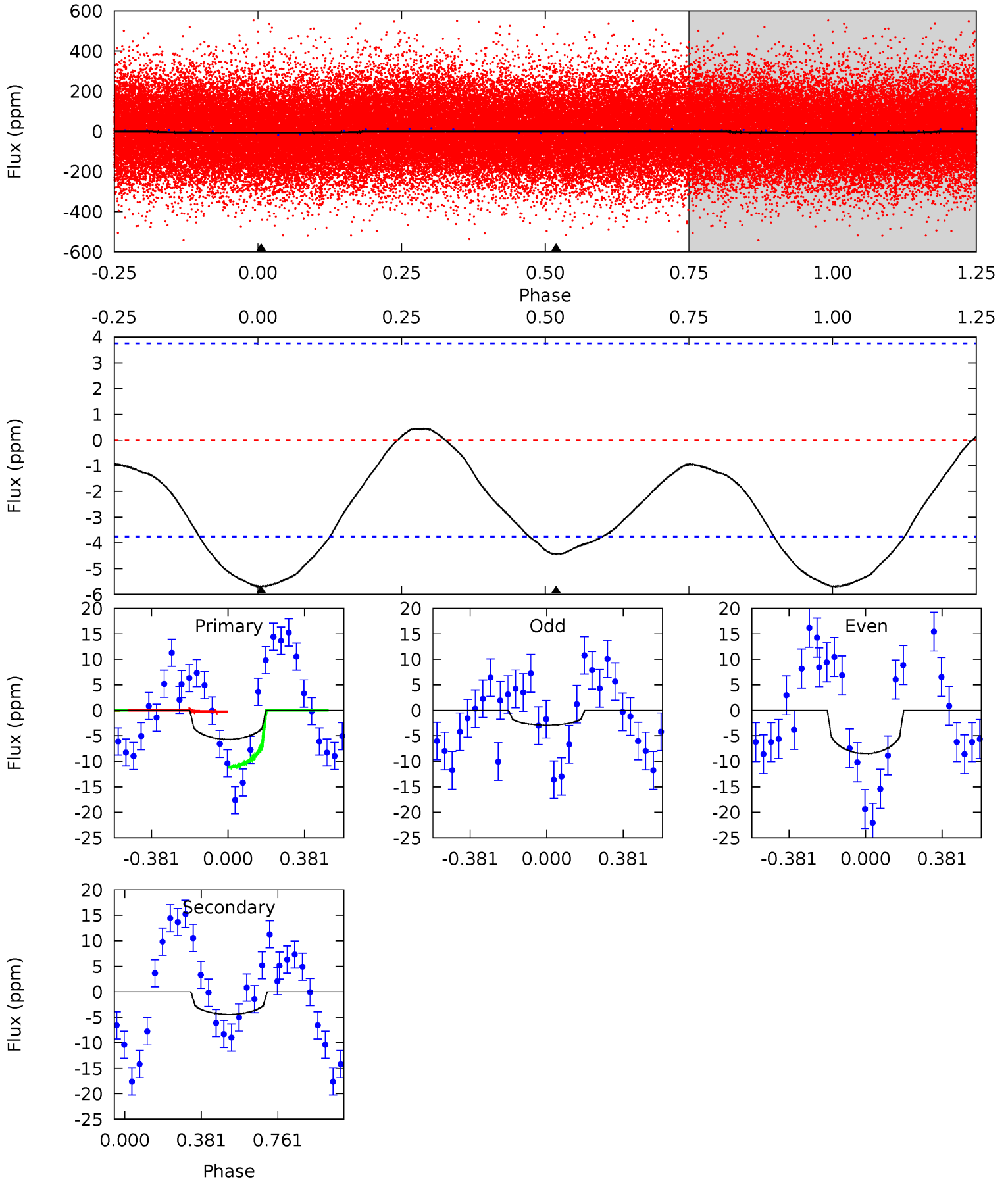




# DV Model-Shift Uniqueness Test

004819916-01, P = 1.023793 Days, E = 130.970724 Days

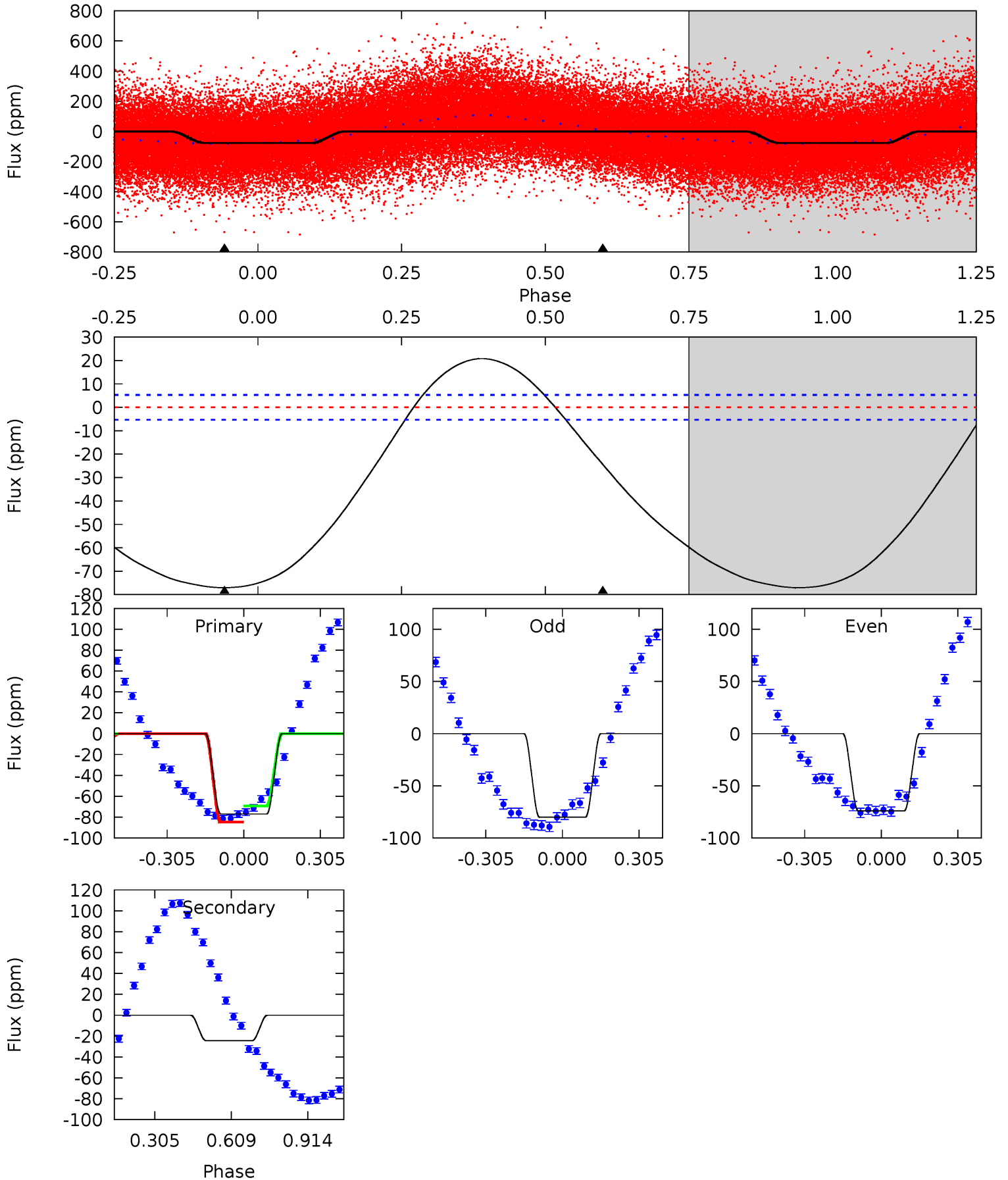
Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
6.49	5.06	0	0	4.28	0.88	0.71	6.49	6.49	5.06	5.06	3.21	0.70	0.07	6.37



# Alt Model-Shift Uniqueness Test

004819916-01, P = 1.023723 Days, E = 130.936310 Days

Pri	Sec	Ter	Pos	FA <sub>1</sub>	FA <sub>2</sub>	F <sub>Red</sub>	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
62.6	19.8	0	0	4.33	1.03	7.88	62.6	62.6	19.8	19.8	2.42	1.05	0.21	6.76





### Stellar Parameters For KIC 004819916

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	$R$ ( $R_{\odot}$ )	$M$ ( $M_{\odot}$ )	$\rho_{\star}$ ( $\text{g}\cdot\text{cm}^{-3}$ )
	$6202^{+171}_{-171}$	$3.816^{+0.285}_{-0.095}$	$-0.060^{+0.300}_{-0.250}$	$2.377^{+0.447}_{-0.831}$	$1.348^{+0.219}_{-0.244}$	$0.141^{+0.291}_{-0.044}$
	+3%/-3%	+7%/-2%	+500%/-417%	+19%/-35%	+16%/-18%	+206%/-31%
Source	PHO1	FLK73	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology  
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

### Secondary Eclipse Parameters for KIC 004819916-01 / KOI

Detrend	Depth (ppm)	$R_p$ ( $R_{\oplus}$ )	$T_{\text{max}}$ (K)	$T_{\text{obs}}$ (K)	$A_{\text{obs}}$
DV	$-4 \pm 1$	$2.24^{+2.40}_{-1.55}$	$3907^{+232}_{-315}$	$-2813^{+8015}_{-745}$	$0.238^{+2.133}_{-0.186}$
Alt.	$-24 \pm 1$	$3.12^{+2.74}_{-2.11}$	$3892^{+250}_{-303}$	$3628^{+3154}_{-6765}$	$0.632^{+6.175}_{-0.441}$

$T_{\text{max}}$  = Theoretical Maximum Planetary Temperature  
 $T_{\text{obs}}$  = Observed Planetary Temperature (Assuming  $A=0.3$ )  
 $A_{\text{obs}}$  = Observed Albedo (Assuming  $T=0$ )

If a secondary eclipse is present, the system is likely an EB if  $T_{\text{obs}} \gg T_{\text{max}}$  AND  $A_{\text{obs}} \gg 1.0$

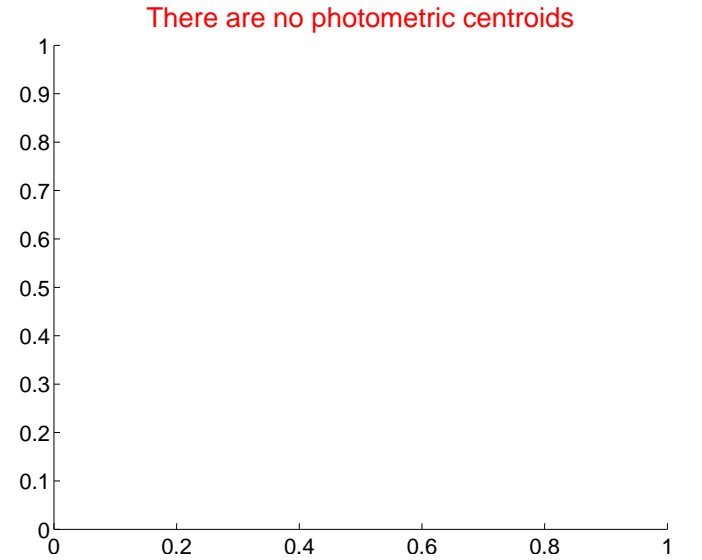
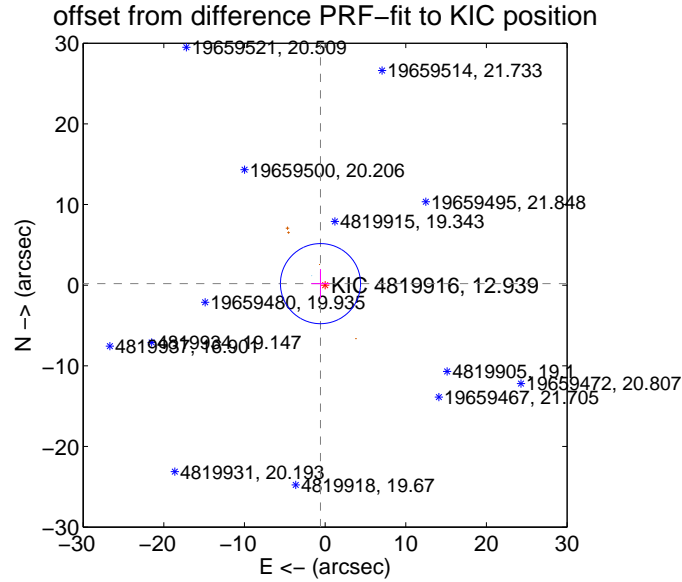
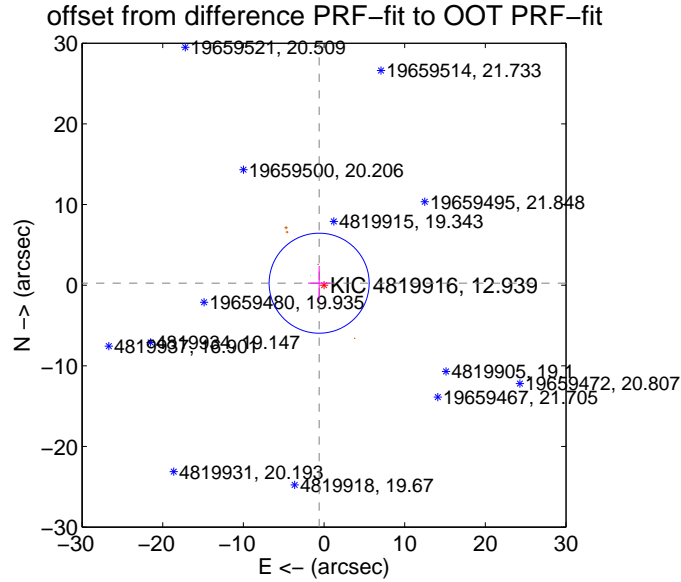
## DV Centroid Data

Supplemental centroid analysis for 004819916-01. Kepler magnitude: 12.94. Transit SNR 0.32

There are 2 quarters with good PRF difference image offsets

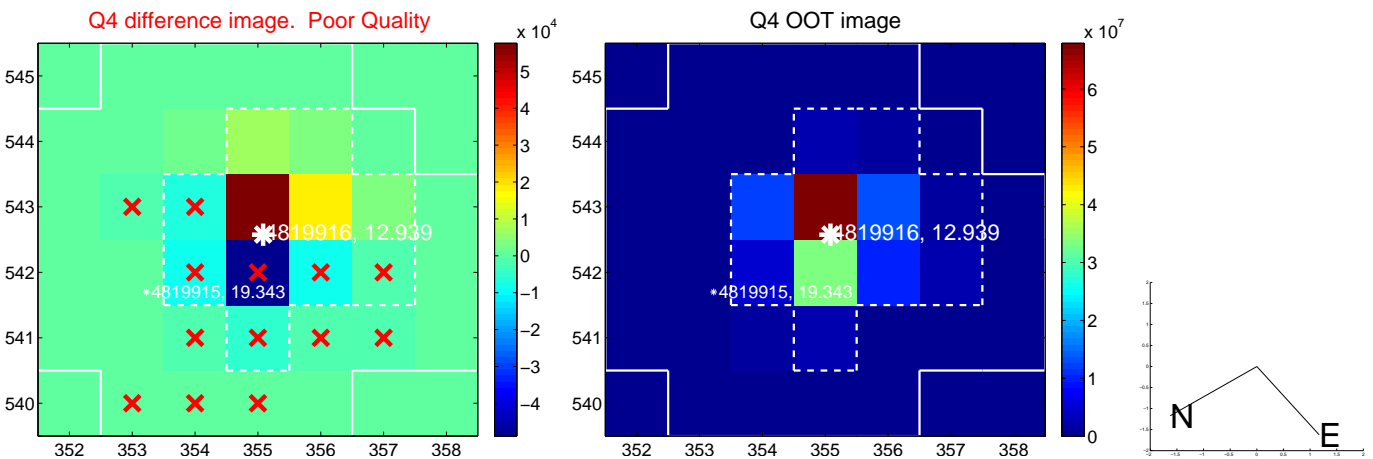
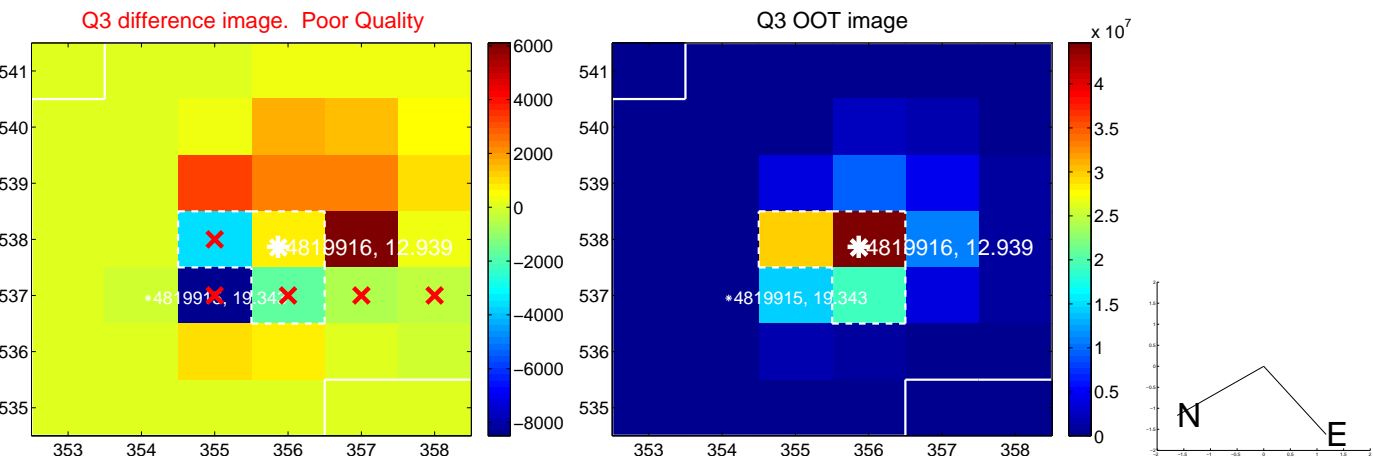
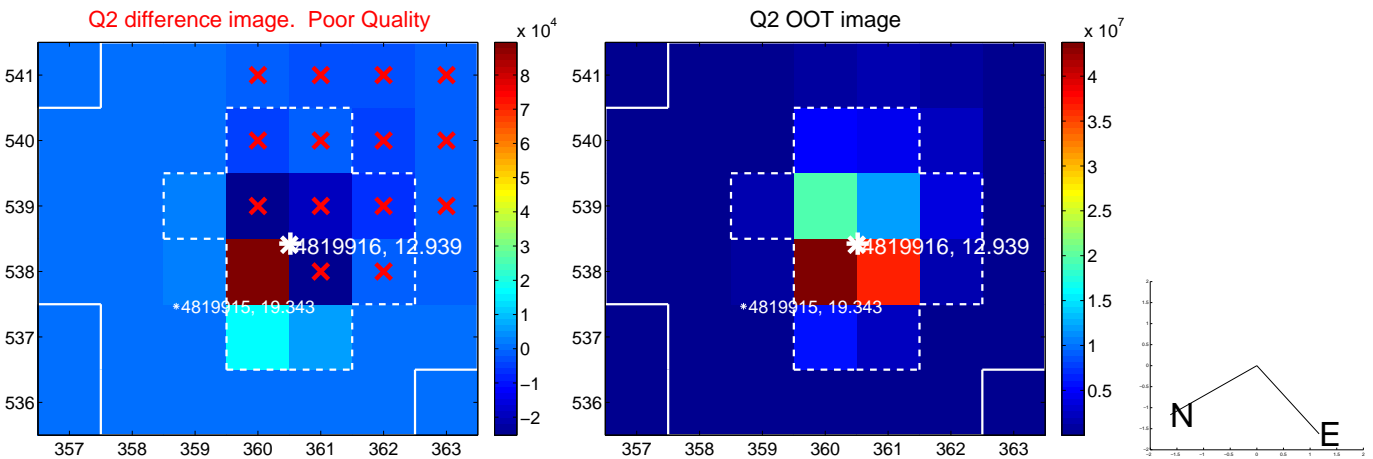
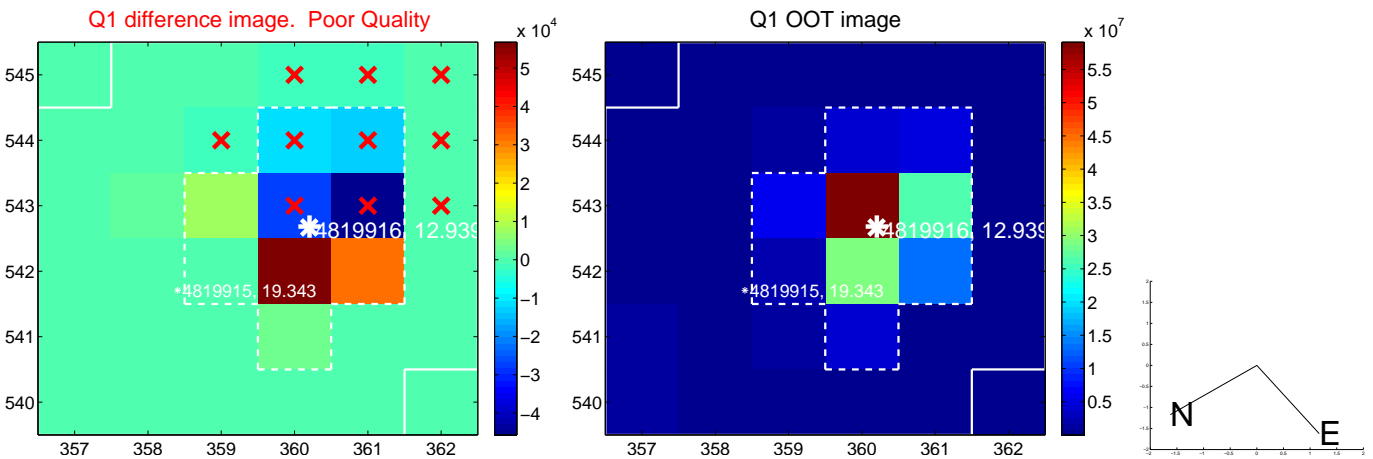
The direct PRF centroid is offset from the target star catalog position by about 0.08 arcsec

	Distance in arcsec	Distance / $\sigma$	$\Delta$ RA	$\Delta$ Dec
PRF-fit source offset from OOT	$0.653 \pm 2.067$	0.32	$0.606 \pm 1.379$	$0.244 \pm 2.129$
PRF-fit source offset from KIC position	$0.603 \pm 1.655$	0.36	$0.573 \pm 1.152$	$0.190 \pm 1.803$
photometric centroid source offset	—	—	—	—

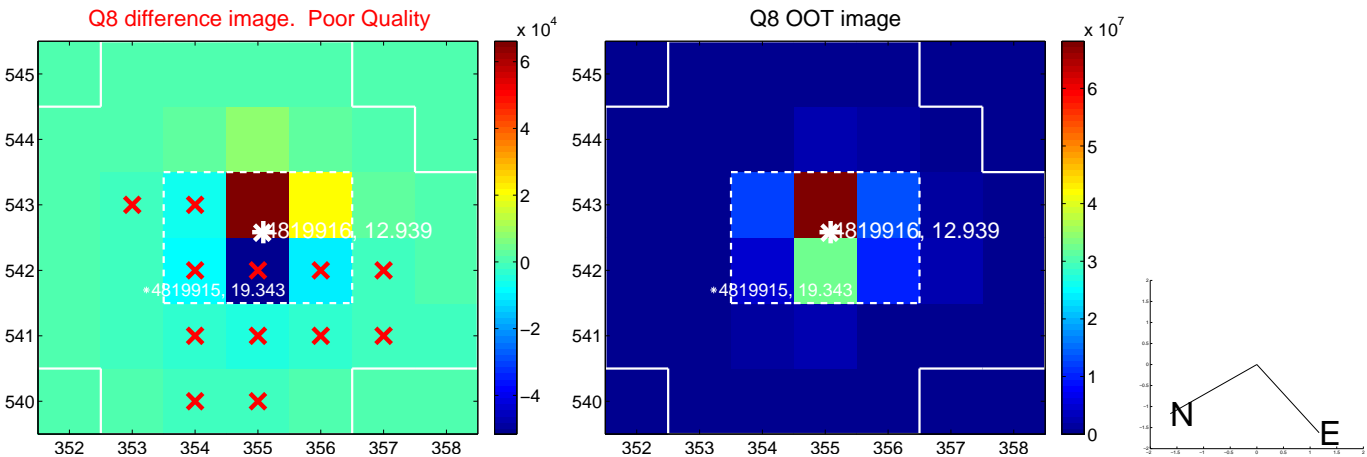
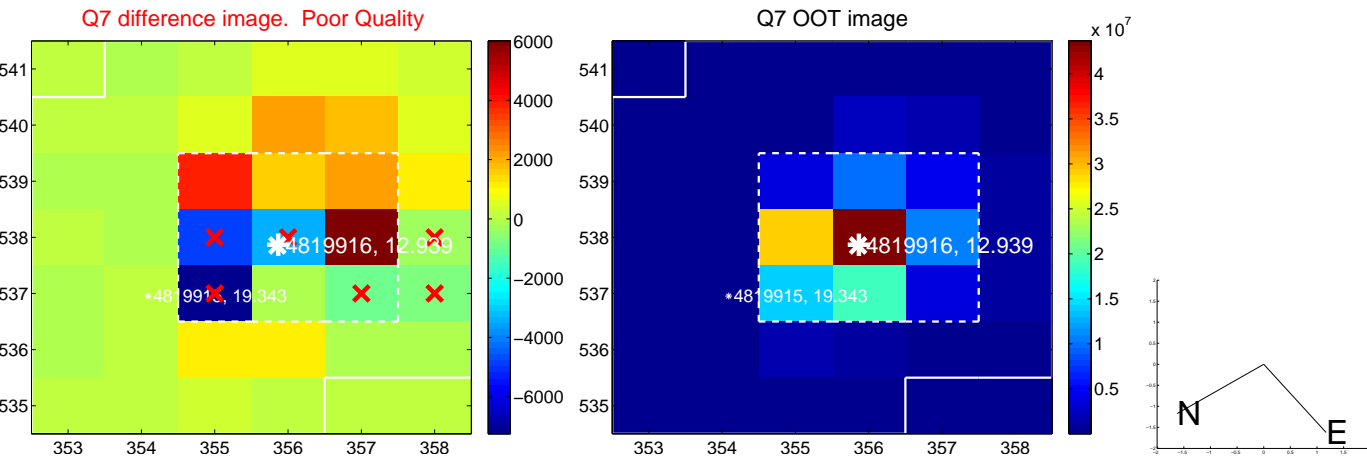
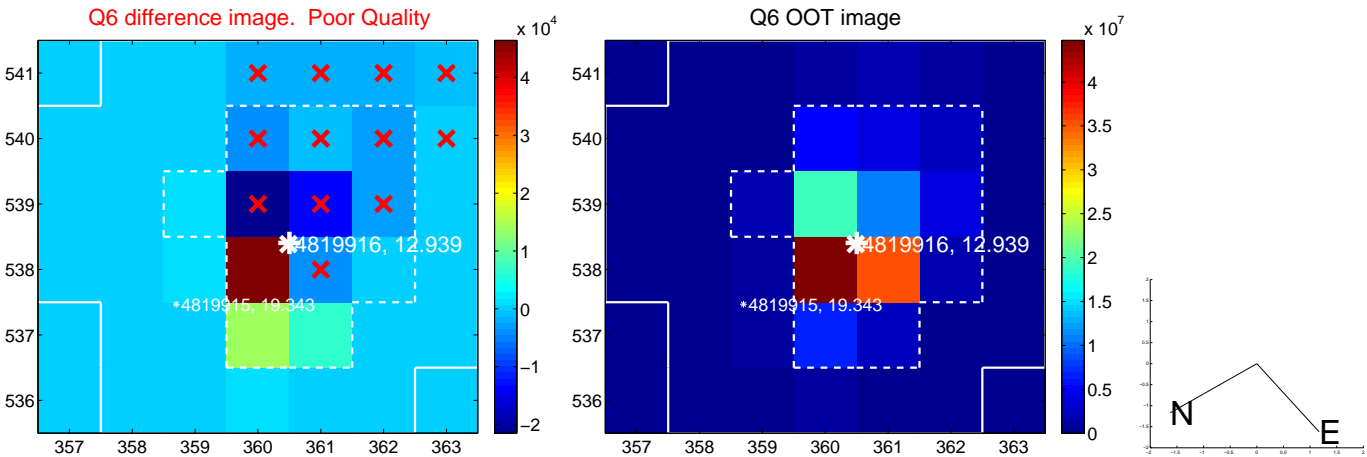
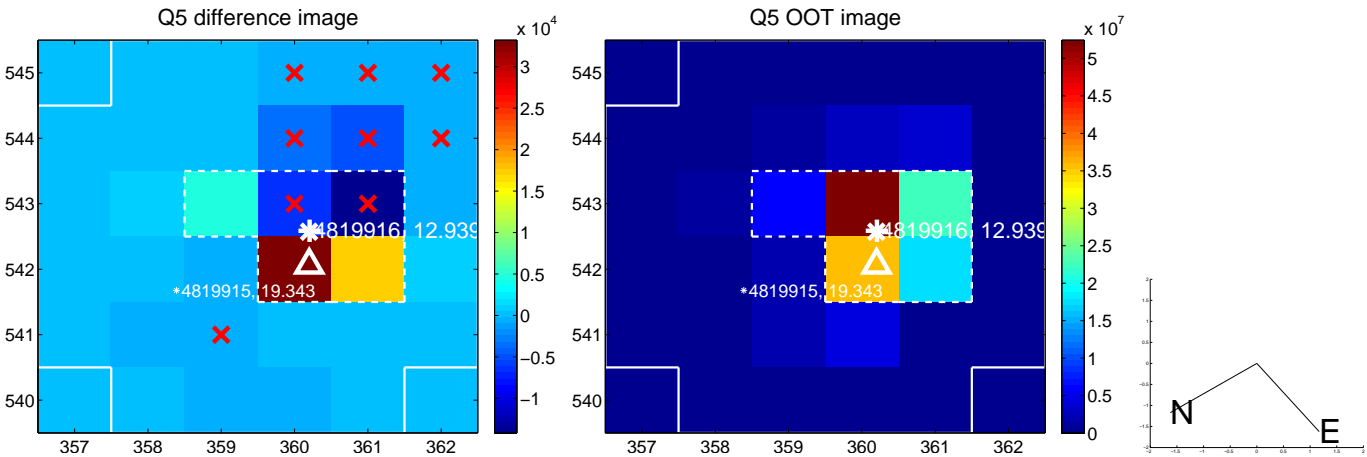


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- $\sigma$  uncertainty. Blue circle: three- $\sigma$ . Red \*: target star. Blue \*: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

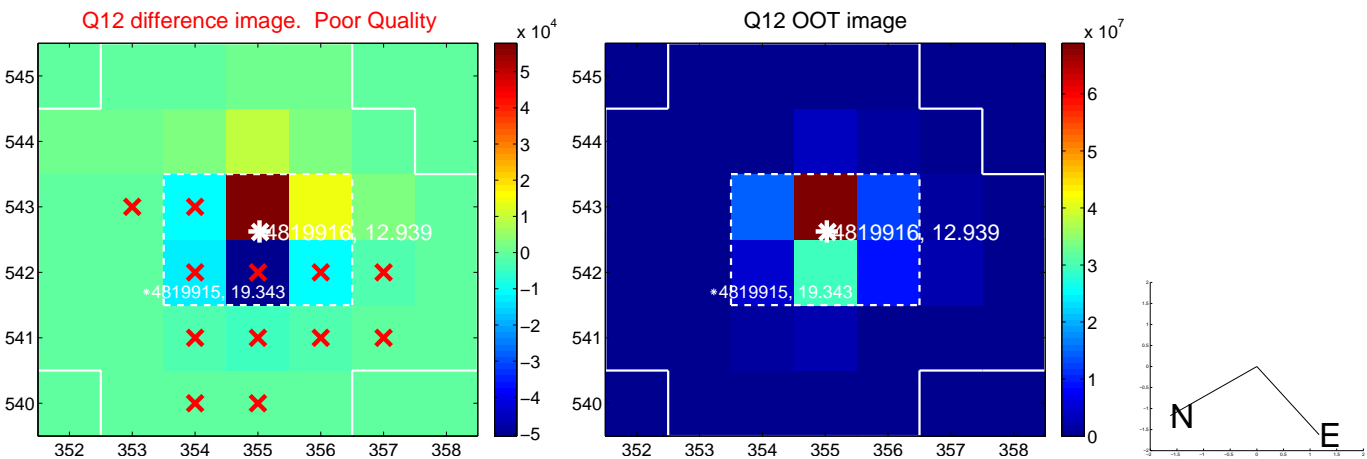
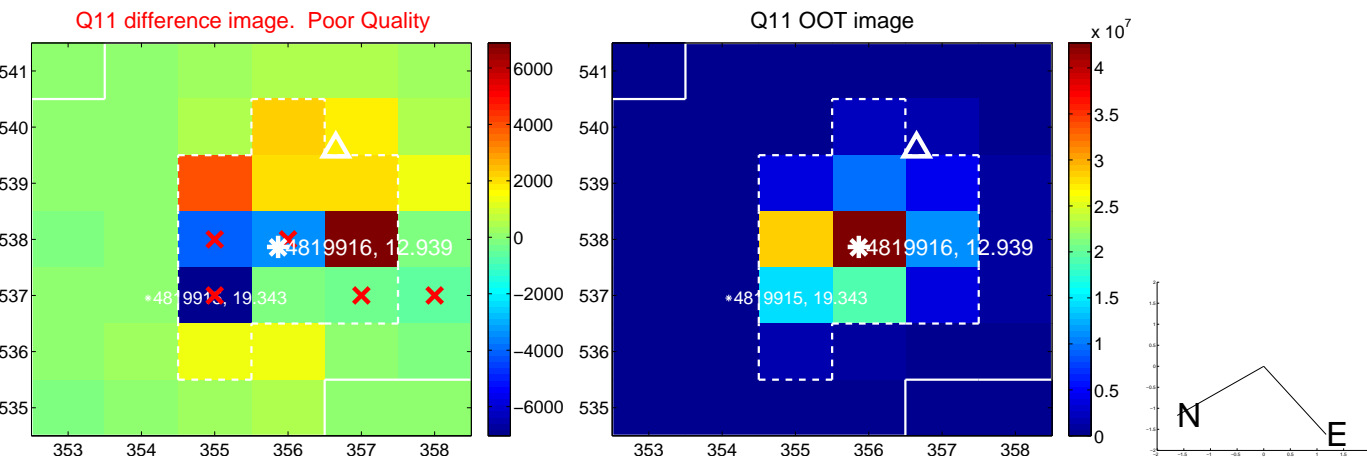
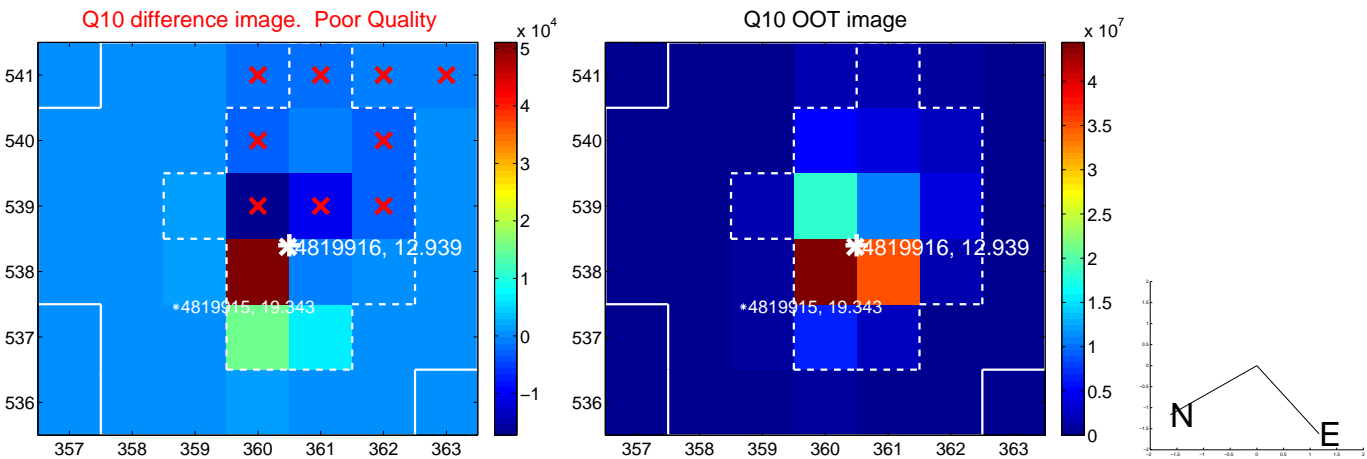
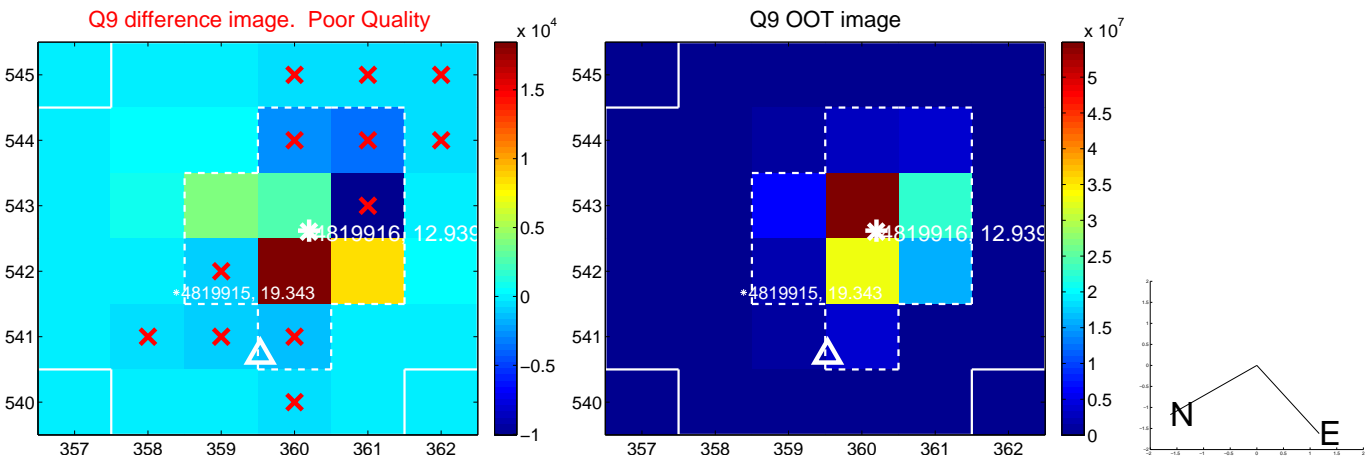


white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.

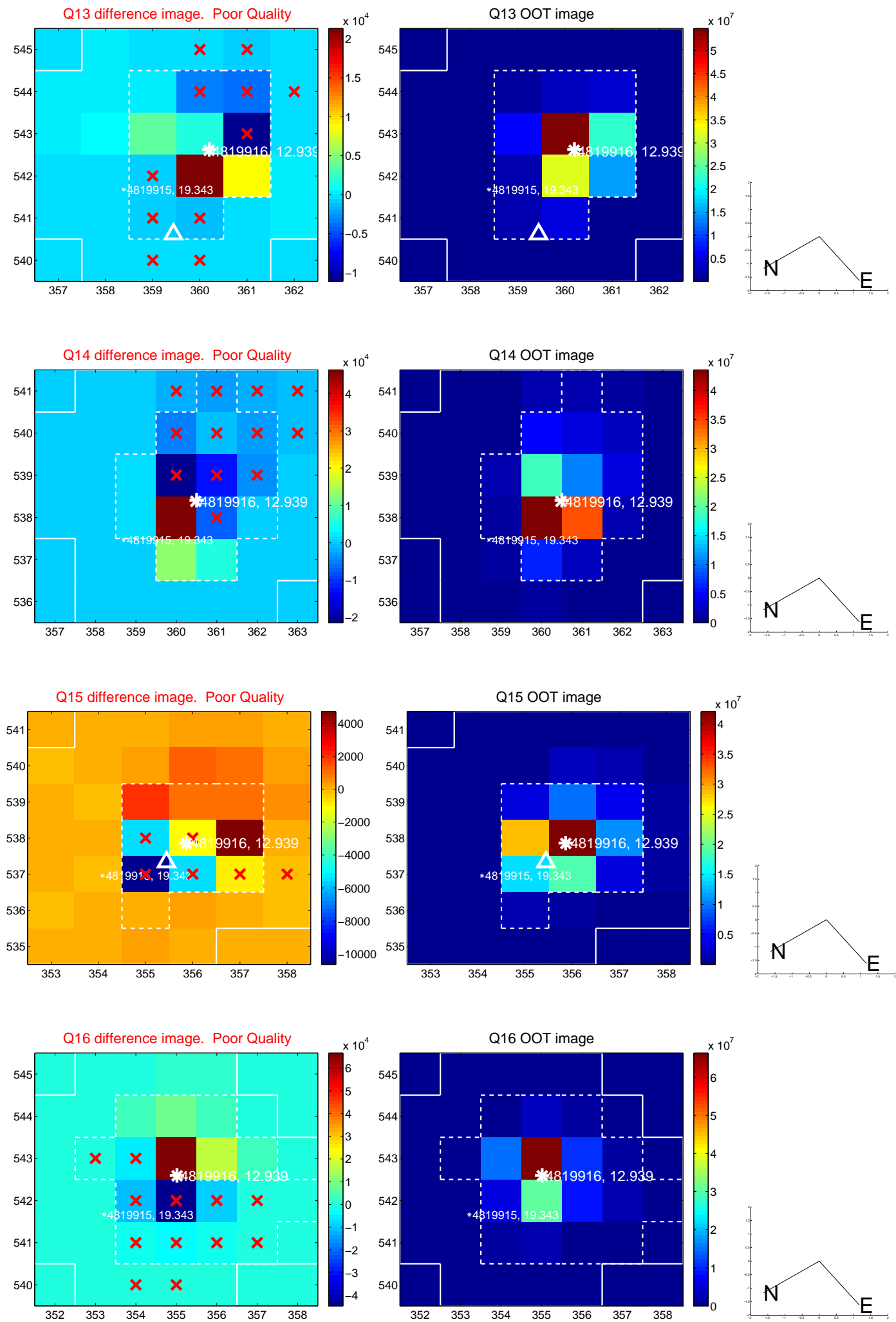




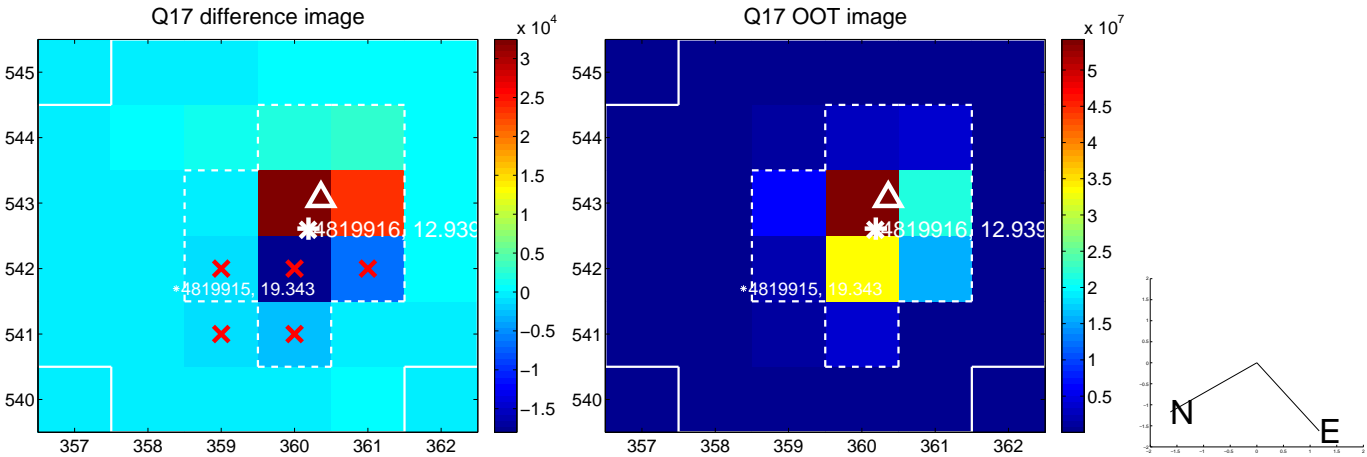
white  $\times$ : KIC target position; +: OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



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white  $\times$ : KIC target position;  $+$ : OOT centroid;  $\triangle$ : difference centroid. red  $\times$ : large negative pixel value.



folded centroid time series figure for this object.

UKIRT Image

Declination

